

U.S. Pat. Appl'n. No. 10/736,284
Prelim. Am'd. Dated August 26, 2004

CHANGES TO THE CLAIMS

21 (New). A skid steer vehicle, comprising:

a chassis including first and second sidewalls;

an engine mounted to the chassis, the engine including at least first and second hydraulic pumps; and

first and second drive systems, disposed adjacent to the first and second sidewalls, respectively, each drive system including:

a hydraulic motor including an output shaft with first and second ends and an axis of rotation;

a first axle housing coupled to the first end of the output shaft, the first axle housing housing at least first, second and third reduction gear sets and at least part of a first axle that extends laterally outward away from the first axle housing;

a second axle housing coupled to the second end of the output shaft, the second axle housing housing at least fourth, fifth and sixth reduction gear sets and at least part of a second axle that extends laterally outward away from the second axle housing;
and

two wheels, each wheel being driven by one of the first and second axles;
wherein the hydraulic motor of the first drive system is fluidly coupled to the first hydraulic pump to be driven thereby and the hydraulic motor of the second drive system is fluidly coupled to the second hydraulic pump to be driven thereby.

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22 (New). The vehicle of Claim 21, wherein at least one of the first, second and third gear sets is a bevel gear set and wherein at least one of the fourth, fifth and sixth gear sets is a bevel gear set.

23 (New). The vehicle of Claim 21, wherein the output shaft of the hydraulic motor extends fore-and-aft.

24 (New). The vehicle of Claim 21, wherein the first and second axles are parallel to one another and extend laterally away from the vehicle and further wherein the first axle is parallel to at least two internal gear shafts in the first axle housing and the second axle is parallel to at least two internal gear shafts in the second axle housing.

25 (New). The vehicle of Claim 21, wherein the first axle housing houses at least one bevel gear that is engaged to the output shaft of the hydraulic motor to rotate coaxially therewith and at the same rotational speed and further wherein the second axle housing houses at least one bevel gear that is engaged to the output shaft of the hydraulic motor to rotate coaxially therewith and at the same rotational speed.

26 (New). The vehicle of Claim 21, wherein the gear reduction ratios of the first, second and third gear sets are the same as the gear reduction ratios of the fourth, fifth and sixth gear sets, respectively.

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27 (New). The vehicle of Claim 21, wherein the first and second axle housings of the first drive system are fixed to the outer surface of the first sidewall, and wherein the first and second axle housings of the second drive system are fixed to the outer surface of the second sidewall.

28 (New). The vehicle of Claim 21, wherein the hydraulic motor of the first drive system is disposed between the first and second axle housings of the first drive system and wherein the hydraulic motor of the second drive system is disposed between the first and second axle housings of the second drive system.

29 (New). A drive system for a skid steer vehicle, comprising:
a hydraulic motor including an output shaft having an axis of rotation;
a first axle casing coupled to a first end of the output shaft, the first axle casing including a first housing, at least first, second and third reduction gear sets and a first axle that extends laterally outward away from the first housing;
a second axle casing coupled to a second end of the output shaft, the second axle casing including a second housing, at least fourth, fifth and sixth reduction gear sets and a second axle that extends laterally outward away from the second housing; and
two wheels, each wheel being driven by one of the first and second axles.

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30 (New). The vehicle of Claim 29, wherein at least one of the first, second and third gear sets is a bevel gear set and wherein at least one of the fourth, fifth and sixth gear sets is a bevel gear set.

31 (New). The vehicle of Claim 29, wherein the output shaft of the hydraulic motor extends fore-and-aft.

32 (New). The vehicle of Claim 29, wherein the first and second axles are parallel to one another and extend laterally away from the vehicle and further wherein the first casing includes first and second internal shafts and the first axle is parallel to first and second internal shafts.

33 (New). The drive system of Claim 29, wherein the first axle casing includes a first internal shaft that is disposed parallel to the first axle and further wherein the second reduction gear set includes a first spur gear mounted on the first axle and a second spur gear mounted on the first internal shaft.

34 (New). The drive system of Claim 32, wherein the first axle casing includes at least one bevel gear that is coupled to the output shaft of the hydraulic motor to rotate coaxially therewith and at the same rotational speed and further wherein the second axle casing includes at least one bevel gear that is coupled to the output shaft of the hydraulic motor to rotate coaxially therewith and at the same rotational speed.

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35 (New). The drive system of Claim 29, wherein the gear reduction ratios of the first, second and third gear sets are the same as the gear reduction ratios of the fourth, fifth and sixth gear sets, respectively.

36 (New). The drive system of Claim 29, wherein the first and second axle housings of the first drive system are configured to be fixed to the outer surface of a first sidewall of the vehicle.

37 (New). The drive system of Claim 29, wherein the hydraulic motor of the first drive system is disposed between the first and second axle housings of the first drive system.

38 (New). The drive system of Claim 29, wherein the first axle casing includes first and second internal shafts, the first internal shaft being disposed parallel to the first axle, the second reduction gear set including a first spur gear mounted on the first axle and a second spur gear mounted on the first internal shaft, the third reduction gear set including first and second bevel gears, the first bevel gear coupled to the output shaft of the hydraulic motor to rotate coaxially therewith and at the same rotational speed and the second bevel gear coupled to the second internal shaft.